Final Report

V-89-12-0299

Canada/Saskatchewan ERDA
Subsidiary Agreement on
Agricultural Development
Phase III

Funded by
The Agriculture Development Fund

management consulting and applied research

Brystra
Consultants

V-89-12-0299

Final Evaluation

CANADA/SASKATCHEWAN
ERDA SUBSIDIARY AGREEMENT
ON AGRICULTURAL DEVELOPMENT

Phase III - Final Report

July 1990

1355 McIntyre Street, Regina, Saskatchewan, Canada S4R 2M9 Tel: (306) 352-1581

P. O. Box 125, Waterloo, Ontario, Canada N2J 3Z9 Tel: (519) 746-6225
447 Thessaly Circle, Ottawa, Ontario, Canada K1H 5W7 Tel: (613) 731-4878
P.O. Box 1682, Rutherford, New Jersey, USA 07070

Final Evaluation
Canada/Saskatchewan
ERDA Subsidiary Agreement
on Agriculture Development

Executive Summary

Between 1984 and 1989 the Canada/Saskatchewan Subsidiary Agreement on Agriculture Development flowed over $46 million into ag-related research and development projects in Saskatchewan.

This evaluation of the program examines the management and administrative structures and operations that were established to distribute and oversee this funding. As background, the evaluation examines some of the ag-related ERDA Subsidiary Agreements that were established in other provinces, as well as the economic conditions affecting Saskatchewan agriculture at the time of the Agreement.

Based on a review of project files and a telephone survey with some of the funding recipients, this study concludes that:

- Funded projects were in line with the stated goals and objectives of the program (both in absolute numbers as well as dollars expended for different types of R&D).

- The program was generally very well administered, developing a very good and noticeable level of federal/provincial government cooperation.

- Economic impacts of the funded work will be long term in nature. The economic benefits of the work performed will be more

directly experienced at the farm level in terms of improved farm efficiencies, rather than through commercial/industrial ventures.

- With the end of the Ag ERDA Subsidiary Agreement the overall level of support for ag research and development appears to be reduced. Federal monies directed to ag-related R&D are seen to be particularly curtailed.

Recommendations stemming from the evaluation include:

- Agriculture Canada and the Agriculture Development Fund should ensure that current research funding programs are meeting the needs of priority research, and are maximizing the use of the research expertise that is located within the Province.

- Federal and provincial government officials at all levels should continue to communicate, and to coordinate their activities and funding priorities. Formal mechanisms may be required.

- Clear management guidelines for any future joint funding should be established, in order to identify at the start those topics and types of research that the governments agree to fund, as well as agreed upon eligibility requirements. Agreement at the start will avoid later misunderstandings, but should not be considered as a replacement for communications and coordination efforts throughout the term of the funding program.

- Governments should not be overly concerned with the equal distribution of funding during each year of a research program. As in any government funding initiative, larger projects can be assumed at the start of the project, and shorter term ones at the end.

Table of Contents

Executive Summary	i
Table of Contents	iii
Section I : Historical and Present Circumstances	
I. Overview of ERDAs and this Agreement	1
II.a. Review of Management and Administrative Structure	4
- Management Committee	4
- Joint Technical Review Committees	4
- Federal and Provincial Committees	5
- Ag ERDA Coordinators	5
II.b. Review of Procedures	6
- Applications	6
- Technical Reviews	8
- Approvals	9
- Monitoring	9
- Financial Control	10
- Public Information	11
III. Other Agriculture-Related ERDA Subsidiary Agreements	13
- New Brunswick	13
- Prince Edward Island	14
- Manitoba	15
- Alberta	16
- British Columbia	16
IV. The Saskatchewan Economy - Economic Indices	18
V. Allocation of Ag ERDA Funds in Saskatchewan by Sector Area	25

Section II. - Survey of Program Participants 27

I. Overview 27

II. Methodology 28

III. Sample Representation 30

IV. Survey Findings 31

A. Extent to Which Funded Projects Contributed to Program Goals 31

B. Program Administration 33

C. Federal/Provincial Cooperation 36

D. Economic Impacts of the Projects 37

E. Recommendations for Future Funding Programs 38

F. Meeting the Needs of Different Client Groups 41

V. Interview Summary and Conclusions 44

Section III - Overall Conclusions and Recommendations 46

Appendices

Final Evaluation Canada/Saskatchewan ERDA Subsidiary Agreement on Agriculture Development

Section I - Historical and Present Circumstances

I. Overview of ERDAs and this Agreement

During the period between 1983 and 1989, Economic and Regional Development Agreements (ERDAs) between the federal government and the provinces became the primary vehicle for cooperative funding of projects related to economic development. In each province, one general ERDA identified areas or sectors where further economic development was required and a set of general directions that the two levels of government agreed to pursue. Then, through a number of strategically developed Subsidiary Agreements the specific methods for addressing sectoral economic development needs were identified, along with funding arrangements for the work.

ERDAs and their Subsidiary Agreements were generally written for five year periods, with most ending March 31, 1989. The Subsidiary Agreements that were negotiated included one or more of the following types of programs:

1) Cost shared programs, delivered by one government or the other;
2) Cost shared programs, delivered cooperatively;
3) Federally supported, federally delivered programs;
4) Federally supported, cooperatively delivered programs;
5) Provincially supported, provincially delivered programs; and
6) Provincially supported, cooperatively delivered programs.

In most ERDA Subsidiary Agreements, options #1,#3 or #5 were chosen. In the case of the Canada/Saskatchewan ERDA Subsidiary Agreement on Agriculture Development (Ag ERDA) only options #3 and #5 were included. With the exception of communications and evaluation requirements, the ERDA Subsidiary Agreements were generally not administered cooperatively, or cost shared, between the two levels of government.

Funding for the Canada/Saskatchewan ERDA Subsidiary Agreement on Agriculture Development was originally based on a $30 million federal contribution and a matching $30 million provincial contribution. However, when the Canada/Saskatchewan ERDA Subsidiary Agreement on Irrigation-Based Economic Development was later initiated, $5 million dollars of the above federal monies were transferred to the Irrigation Subsidiary Agreement, leaving the Ag. Development Agreement with a total of $55 million dollars.

The Canada/Saskatchewan ERDA Subsidiary Agreement on Agricultural Development had as its primary objectives:

- The **conservation** and **development** of agricultural resources in Saskatchewan with particular attention to the **soil degradation problem**, further development of **irrigation,** and the enhancement of **human resource capabilities**; and

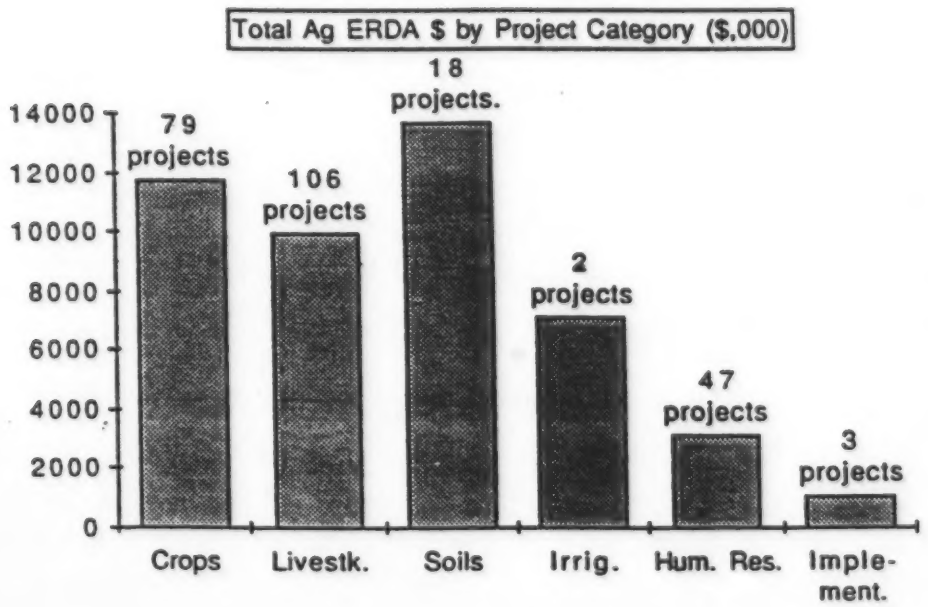
- The **development of important commodity sectors**, specifically the encouragement of **crop intensification** and the enhancement of **livestock productivity**. This was to be done through development of **marketable products**, and the **development and the transfer of technology** to the sectors.

Specifically the Agreement required the two levels of government to undertake projects that would:

- Encourage and promote extended crop rotations and the adoption of new crops and crop technologies;

- Develop and improve the adoption of livestock production technologies and practices;
- Extend and improve soil conservation;
- Enhance the development of the irrigation potential of Saskatchewan; and
- Enhance human resources used in agriculture.

During the course of the five year Ag ERDA Agreement, over 46 million dollars were committed to 255 projects. The following chart shows the distribution of this money by research/project category.



II. a. Review of Management and Administrative Structures

* **Management Committee**

In accordance with the Subsidiary Agreement, a Management Committee was established. This Committee was made up of two representatives from Ag Canada, including the Regional Director, Agriculture Development Branch for Saskatchewan who was named one of the two co-chairs. On the provincial side, there were two members from Saskatchewan Agriculture, including the Deputy Minister of Agriculture who served as the Provincial co-chair.

The Management Committee ensured a coordinated approach to the approval of federal and provincial directly delivered projects. It also had final say on the approval or rejection of all proposals for funding, approved annual work plans, had authority to transfer funds among Sub-programs and projects within Programs as it believed to be appropriate, and established advisory and technical committees as required. The Management Committee was required to meet at least twice per year while the Subsidiary Agreement was in force.

In any situations where agreement could not be reached between the members of the Management Committee, decisions could be referred to the Ministers of the two departments for a final approval. (We have not seen any indication, however, that this fall back was ever utilized by this Management Committee.)

* **Joint Technical Review Committees**

Joint technical review committees were established in order to review proposals on the basis of their technical merit. In almost all cases, the review committees included individuals from the provincial government, the federal government and the private sector.

Technical review committees were established for the areas of Soils; Crops; Livestock; Human Resources; Engineering; and Food Production and

Marketing. These review committees recommended which projects merited funding.

* **Federal and Provincial Committees**

On the Federal government side, the Ag. Development Committee (ADC) served as an advisory and first level decision-making body for project recommendations. This Committee was made up of Ag. Canada Regional Directors. While the Management Committee had final authority for project approvals, the ADC identified those projects that the federal government was interested in supporting, and made recommendations to the Management Committee on their preferences after the technical review committees had evaluated each project.

On the Provincial government side, the Saskatchewan Department of Agriculture Board of Directors served a similar purpose as the ADC did for the federal government. While the work of these two committees was not devoted solely to the ERDA Subsidiary Agreement, the use of these existing bodies helped to ensure that the ERDA was not duplicating other agriculture-related projects that were already being supported by the two governments.

* **Ag ERDA Coordinators**

For both the federal government and the provincial government, Ag ERDA Coordinators were appointed to manage the flow of paperwork for the Agreement. The provincial government did not appoint their Coordinator until May 1985 (nearly nine months after the Agreement was signed). Mid-way through the Agreement, this individual moved on to another position. The provincial coordination role was temporarily left to the person who had been responsible for the financial administration of provincial projects, until the Coordinator's role was refilled.

Ag Canada appointed the federal Coordinator right from the start, but there were personnel changes there too during the course of the Agreement.

The Ag ERDA Coordinators were responsible for: receiving applications, distributing applications to appropriate technical review committees, ensuring reviews of projects within their respective governments after technical reviews, recommending topics for the Agendas of the Management Committees, ensuring that approved projects continued on schedule, and ensuring that any required progress reports were submitted.

II. b. Review of Procedures

• Applications

During the five years of the Ag ERDA Subsidiary Agreement, several changes were made in the application process.

Throughout the first ten months of the Agreement, the federal government collected applications for projects, without any standard application form. Key information was required in each application and prospective applicants were provided with lists of required information categories and/or sample application forms (from other programs) on request.

Prior to May 1985, provincial money for the Agreement was not available. Consequently, until this time the province simply collected applications, with no application forms or application process being developed. After the first meeting of the joint (federal/provincial) Management Committee for the Ag Development ERDA Subsidiary Agreement, in May of 1985, progress appears to have been made on both sides with respect to the application process.

By January of 1986, the Provincial government had created the Agriculture Development Fund (ADF), a funding program that was closely matched to the ERDA Subsidiary Agreement in intent and administrative structure. As a result, the Provincial government adopted the ADF application forms for use in the

ERDA Subsidiary Agreement, and developed parallel structures for the administration of the two programs.

The use of ADF forms for provincial Ag ERDA applications simplified the province's need for a second form. Provincially, proposals were occasionally re-routed between ADF and Ag ERDA when expedient to do so. It should also be mentioned that even after the development of the ADF application forms, Ag ERDA applications that were prepared in a non-structured, general form continued to be accepted, as long as key information was included.

Most of the federal funds were committed early on, before a formal application process was developed by the federal government. While applications were still received by the federal government in the second to fifth years of the Subsidiary Agreement, the evolution of a formal application form within Ag Canada was never realized. Federal officials maintained this flexibility by even accepting applications that were prepared on the Province's ADF application forms.

Proposals for Ag. ERDA Subsidiary Agreement funding were submitted to either the federal or provincial governments. The applicants' choices for why they approached one particular level of government seem to be based on several expectations.

1. Some applications were for projects to be run by other federal government agencies or laboratories, and were submitted by federal government officials directly to Ag. Canada for a share of the federal funds.

2. Applicants may have had previous experience working with officials at one level of government, and therefore chose to contact a familiar office.

3. As the Agreement proceeded, individuals in the Saskatchewan agricultural industry came to know when funds of one level of government were limited in a particular area of the Agreement. They, therefore, tended to contact the other government's representatives, hoping to increase their chances for funding.

* **Technical Reviews**

Under the Ag Development ERDA Subsidiary Agreement, both governments were required to develop a set of technical review committees, made up of experts in the various areas covered by the Agreement. These technical review committees were formed early, and were operational before the first Joint Management Committee meeting in May of 1985. Throughout the course of the Subsidiary Agreement these technical review committees met quarterly.

Project applications were submitted to the joint technical review committees, according to subject matter, to be assessed and rated. Applications going into the technical review committees were identified as potential provincial or federal projects. Two rank ordered lists of projects were then developed by these committees, one for each level of government to consider for actual funding.

The fact that these review committees were established as joint committees with both federal and provincial representation acted as a safe-guard to ensure that the overall proposal administration was coordinated, and that proposals for duplicate funding were not passed on to the Management Committee. After the creation of the provincial government's Agriculture Development Fund, the same committee reviewed the technical aspects of ADF proposals as well. This overlap of expertise helped to further ensure that duplicate funding was not being approved for individual projects.

* **Approvals**

Following the ranking by the Technical Review Committees, the Ag Development Committee (ADC), made up of Ag. Canada Directors, on the federal government side, and the Saskatchewan Department of Agriculture Board of Directors on the Provincial government side, reviewed the rank ordered lists and identified which projects they would in fact recommend be funded. In most cases, the federal review was conducted after the provincial review, and with knowledge of which projects the province would recommend for its funding.

The two governments' recommendations for funding and for rejection were then made to the Subsidiary Agreement's Joint Management Committee. Once the Management Committee had made its decision, a joint letter from that federal/provincial committee was sent to the applicants notifying them of the final decision.

* **Monitoring**

Projects were monitored in a number of ways:

1. During the course of financial administration, progress was reported prior to payments being processed.

2. On the federal government's side, project managers would report on progress for the ADC, even for projects being conducted by third parties (non-federal government agencies).

3. Both governments also kept in touch with each others' projects by asking for progress statements.

4. On larger projects that contained several activities, Steering Committees were often assembled to keep track of the progress, and to report back to the funding government.

* **Financial Control**

On the Provincial government side, financial control seems to have run smoothly, with a few early exceptions. During the initial stages of the Subsidiary Agreement, some projects were managed by other officials within the Department of Agriculture and Food, who found they were able to charge project expenses directly to the ERDA budget codes, without going through the ERDA Coordinator. This situation made financial control of the provincial projects as a whole more difficult. Such problems, however, were identified early and corrected.

In managing the projects trade-offs were seen between the importance of getting work started and the need for control of funding and recovery of unspent funds. In order to have work started promptly, advance payments were often authorized prior to work being completed.

For a few development type projects, however, it was determined that the work was not feasible after project approval and after the advance payments had been made. In cases of under-budget or terminated projects unused funds were returned to general revenues of the funding government and not to the Subsidiary Agreement for redistribution.

Most of the federal funds were used and administered by other federal government agencies (e.g., PFRA, Ag Canada Research Stations). In each of these cases, these other federal agencies reported to the federal ERDA Coordinator on a quarterly basis. Their reports included both financial and qualitative results. The federal ERDA Coordinator, therefore, only had a very small number of projects to administer.

* **Public Information**

One of the problems that many Saskatchewan ERDA Subsidiary Agreements appear to have in common, is the initial assumption at the negotiation stage, that communications and evaluations are federal government requirements and therefore need only be funded by the federal government. The Ag Development ERDA Subsidiary Agreement is no exception to this dilemma.

During the course of the Agreement, however, the Province identified a number of public information, communication and evaluation activities that it wanted to undertake, and therefore was forced to find other (non-ERDA) sources of money to cover these activities. Provincial information dissemination activities were covered by either ADF or Departmental communication budgets.

On the **Provincial** side, the ADF Communications Officer included ERDA projects in the ADF News(letter)[1], Farm Report (a Departmental weekly publication), Ag News (another Departmental newspaper), and the Annual ADF Progress Report (which listed all ERDA projects).

These internal publications were preferred over general press releases, which had to be approved by the federal government (in Ottawa) prior to release. The province erected signs for provincially funded projects, according to a design that was accepted to by both governments.

On the **Federal** side, a structured communication plan was developed. Federal monies budgeted in the Agreement for public information went toward the support of a Communications Officer and the costs involved in promoting the Agreement as a whole. This work included some joint signage, annual reports for the Agreement and the development of a brochure to introduce the

[1] ADF News has a wide distribution, including 72,000 copies distributed with the WEestern Producer and 3,500 copies distributed through a mailing list. This is thought by Departmental personnel to be a very successful method of disseminating information.

Agreement. The budget of $343,000, however, was very limited when considered in the context of a five year Agreement.

The Communications Officer also developed a variety of other methods for disseminating information to the public about the activities being funded under the Agreement. These included:

- articles/features on specific projects,
- promotions in Farm Light and Power,
- news releases (submitted to Ottawa for approval),
- development of stories of projects for print media and TV coverage,
- co-sponsoring of conferences,
- encouragement of University of Saskatchewan and Research Stations to provide coverage of their projects within their publications,
- encouragement of project managers to make reference to ERDA in their presentations, and papers (This included supplying some data and presentation materials for their use.)
- articles in Agri-Features (an Ottawa-based, bi-weekly departmental publication),
- articles in Tip Sheets (an Ottawa-based, weekly departmental publication including short paragraphs on projects),
- articles submitted to the National Grains Bureau in Winnipeg, for inclusion in their weekly publication.
- biweekly letters from the Swift Current and Saskatoon Research Stations (including 1 project story per page), and
- the use of ADF News (the Province's monthly publication) to publicize federal ERDA projects.

Both the federal and provincial governments appear to have utilized existing government publications, and media events arranged for other larger purposes to disseminate information about the Agreement and the projects that were funded under it. Budget limitations, which may have been considered a major problem by some, actually provided officials with incentives for developing cost effective communication vehicles, and discouraged the governments from undertaking costly promotional campaigns.

III. Other Agriculture-Related ERDA Subsidiary Agreements

Several other provinces established ERDA Subsidiary Agreements for encouraging the development of their agriculture and food processing sectors. Manitoba, Alberta, British Columbia, Nova Scotia, New Brunswick, and Prince Edward Island all developed agriculture-related Subsidiary Agreements. Ontario developed a Memorandum of Understanding with the federal government that related to agricultural development, but did not go the next step to establishing an ERDA Subsidiary Agreement in this area.

NEW BRUNSWICK

The New Brunswick Agri-Food Development Subsidiary Agreement for example, focused on the needed improvements for:

- livestock feed development,
- livestock industry development,
- potato industry development, as well as
- horticulture and specialty crop development.

Each of these areas of development required:

- land resource development,
- marketing assistance,
- improved technology, and
- human resource development, industry infrastructure and support services (HRISS).

Specific initiatives for the federal and provincial governments and for cost-shared projects were identified for these development areas.

Within the New Brunswick Subsidiary Agreement, the largest funding came from the federal government ($25M, as compared to $7M in provincial funds). It is noteworthy that the majority of the federal funds ($11M) were applied to land resource development, specifically providing financial incentives and technical

support to producers to undertake approved land improvement and soil conservation activities on their farms.

The Subsidiary Agreement's Management Committee had a strong role in approving and managing cost-shared projects, while federally delivered and provincially delivered projects were administered and approved by the respective government representatives. An Industry Advisory Committee, made up of eight representatives of farm groups and other agri-food groups in New Brunswick, was established to review the Subsidiary Agreement's strategy and to report annually to the Management Committee. Unlike the Technical Committees under the Saskatchewan Subsidiary Agreement, the New Brunswick group, was not given the mandate to comment on or to recommend specific project proposals.

PRINCE EDWARD ISLAND

The Prince Edward Island government identified that its greatest need in the agri-food industry was to revitalize a hog kill, chill and cut facility on the Island. As a result, that province's Agri-Food Subsidiary Agreement was totally devoted to one project -- the construction of a hog kill, chill and cut facility.

This Subsidiary Agreement is also different from the majority of other Agreements in that it incorporates private sector monies as well as federal and provincial funds. **Federal support** amounted to $4.5M for the construction of the facility. **Provincial support** included: $3.7M in the form of preferred shares on the project; $10M for capital costs of the plant from the PEI Development Agency; underwriting operating losses until breakeven production levels were reached; and the creation of a hog production incentive program to increase hog supply levels. **Private sector support** included: $.48M from the PEI Hog Commodity Marketing Board for capital costs, and $2.1M from Canada Packers Inc. for the facility (of which $1.8M was related to the hog operation).

MANITOBA

The Canada-Manitoba Subsidiary Agreement on Agri-Food Development focused on the facilitation of improved economic performance through efficiency gains, long-run sustainability of the agri-food sector (through improved resource management practices), and the coordination of various relevant government programs, departments and agencies.

Projects were either federally delivered and funded, or provincially delivered and funded. There were no cost-shared parts to this Subsidiary Agreement. The federal government contributed $23M to the Agreement, while the Province of Manitoba added $15.3M.

Under a Program for Enhanced Agricultural Productivity, the two governments undertook sub-programs in the areas of:

- Crop Research and Extension,
- Livestock Research and Extension, and
- Utilization, Marketing and Value-Added Processing.

The Enhanced Soil and Water Resource Management Program included subprograms that addressed Manitoba's needs for:

- Planning, Analysis and District Organization,
- Soil Management Research,
- Soil Conservation and Management, and
- Water Conservation and Management.

The Human Resources Development Program focused on:

- Farm Management Extension and Education,
- Farm Management Decision Making Aids, and
- Farm Management Analytical Research.

A final program addressed the needs for Analysis, Evaluation, Implementation and Public Information.

ALBERTA

The Canada/Alberta Subsidiary Agreement on Agricultural Processing and Marketing focused solely on the food processing sector in that Province. Its two main objectives were to enhance the competitiveness of the existing agricultural processing industry in Alberta, and to encourage and facilitate new private sector investment in the agricultural processing industry.

This Agreement provided **capital assistance** for the establishment, expansion and modernization of agricultural processing operations and commercial testing and research facilities related to agricultural processing. **Non-capital assistance** focused on feasibility studies (market and investment analyses for processors), research and development assistance (developing new or improved products and processes, full time commercial R&D, and pilot projects), and public information and technical services.

The federal government contributed $25M, which was matched by the Alberta Government. By far the largest percentage of the Agreement monies (76%) was assigned to capital assistance projects ($19M federal, and $19M provincial).

BRITISH COLUMBIA

The Canada/British Columbia Subsidiary Agreement on Agri-Food Regional Development had as its main objectives:

- growth and development of economic output from the agricultural sector in that province,
- stimulation of employment in the B.C. agri-food sector,
- enhancement of viability and competitiveness of the agri-food industry, and

- conservation and development of agricultural resources necessary as inputs to an expanding agri-food sector.

To fulfill these objectives, three main program areas (Productivity Enhancement, Resource Development, and Commodity Development) were established, with thirteen sub-programs under them.

The administration of these programs was unique. Most sub-programs were cost shared with the British Columbia government delivering the projects. Two subprograms under Productivity Enhancement (Technology Development and Public Information, Evaluation and Implementation) included federal funding with federal delivery (in addition to the cost shared funding noted above). One Commodity Development Sub-program (On-Farm Commodity Enhancement) received provincial funding with provincial delivery in addition to the cost shared funding already noted.

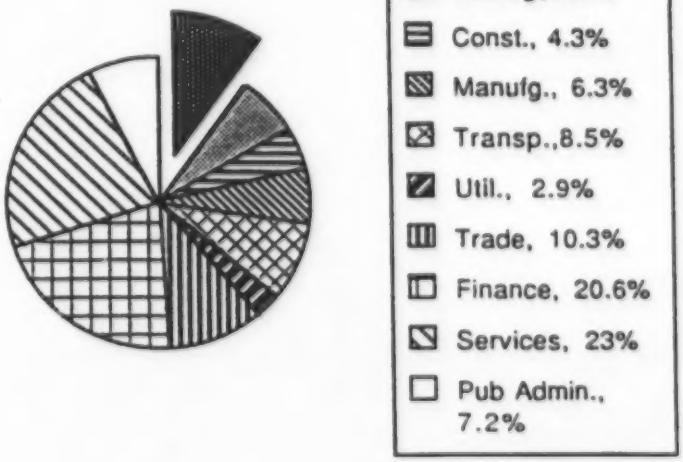
A total of $40M was contributed to this Subsidiary Agreement, half from each government. From this total, $38M was assigned to cost-shared projects.

IV. The Saskatchewan Ag Economy -Economic Indices

During the period of the Sub-Agreement, the agricultural economy in Saskatchewan and Western Canada was in a slump. The significance of the agriculture industry to Saskatchewan is seen in the fact that the proportion of people employed directly in agriculture in the province had been 20.4% in 1984, but dropped to 17.3% in 1988.[2] Indirectly, however, agriculture is thought to account for as many as one-half of the jobs in Saskatchewan.

The agriculture industry also accounted for close to 10% of the Province's Gross Domestic Product throughout the 1984-88 period, but that percentage is significantly lower than the 17.5% of GDP that resulted from Saskatchewan agriculture in 1978.[3]

Percentage Sask. GDP by industry, 1988



[2] Source: Statistics Canada, 71-529. The Labour Force Annual Averages.

[3] Source: Sask. Bureau of Statistics.

Statistics Canada uses 1981 as a base year in its indices of farm prices and farm costs (1981=100). The **farm price index for agricultural products** in Saskatchewan reflected a major drop in prices between 1984 and 1987, as shown below:[4]

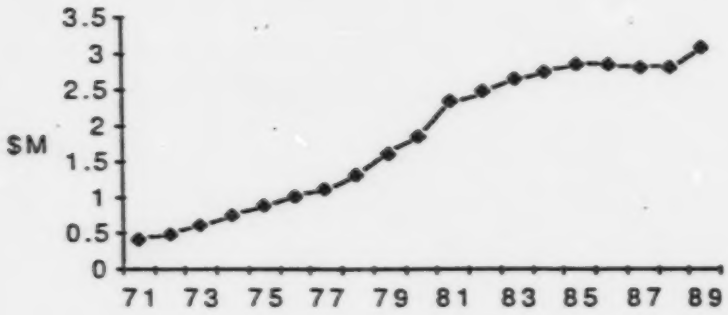
During the same period, **farm input prices** rose continuously. The index for 1983 was 103.6, rising every year with 1988 at 111.3.[5]

[4] Source: Statistics Canada, 62-003 Farm Product Price Index.

[5] Source: Statistics Canada 62-004 Farm Input Price Index.

Gross Operating Expenses for Saskatchewan farmers (excluding depreciation on buildings and machinery) rose steadily between 1971 and 1989, with only slight improvement reflected between 1986 and 1988.[6]

Sask. Farm Gross Operating Expenses



In 1984 farm operating expenses in Saskatchewan were $2,753.2M. Slight fluctuations in the years of the Sub-Agreement were as follows:

1984	$2,753.2M
1985	$2,848.1M
1986	$2,838.4M
1987	$2,819.3M
1988	$2,722.2M[7]

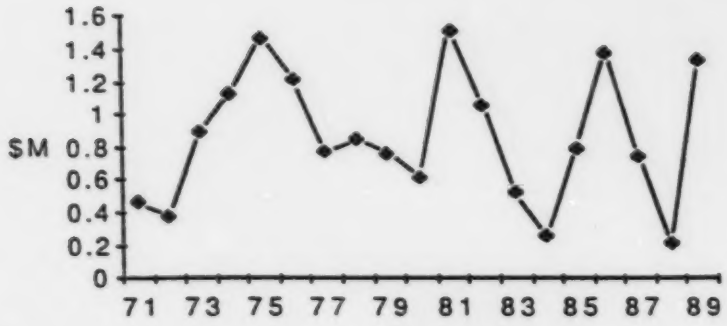
[6] Source: Statistics Canada, 21-603

[7] Source: Statistics Canada,62-004.

It is worth noting that the figures for 1984 gross farm operating expenses are more than double what they were six years earlier, and six times the 1974 values (1978 = $1,317.1M; 1974 = $441.5M).

Total net income of farm operations in Saskatchewan, however, showed a mixed picture.

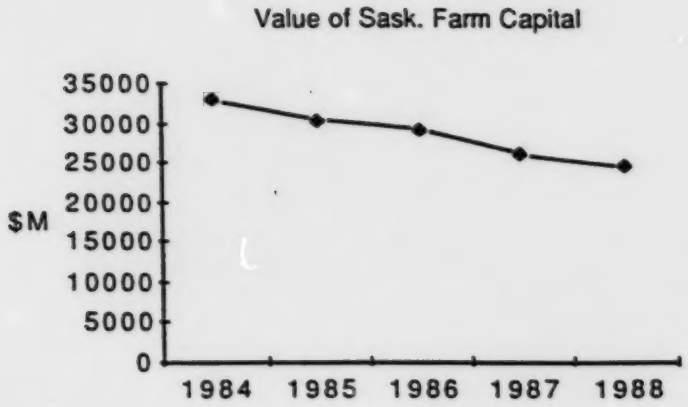
Sask. Total Farm Net Income



In 1984, total net farm income in Saskatchewan was at a very low level of $262M (down from $518M the year before, and $1,059M in 1982); 1985 total net income was $787M, followed by a very strong year of 1986 where total net income from farm operations jumped to $1,370M. Total net income for 1987 and 1988 dropped significantly however, to $742M and $298M.[8] (Major shifts in net income from farm operations are influenced the most by significant changes in the value of inventory, or farm assets, from year to year.)

[8] Ibid.

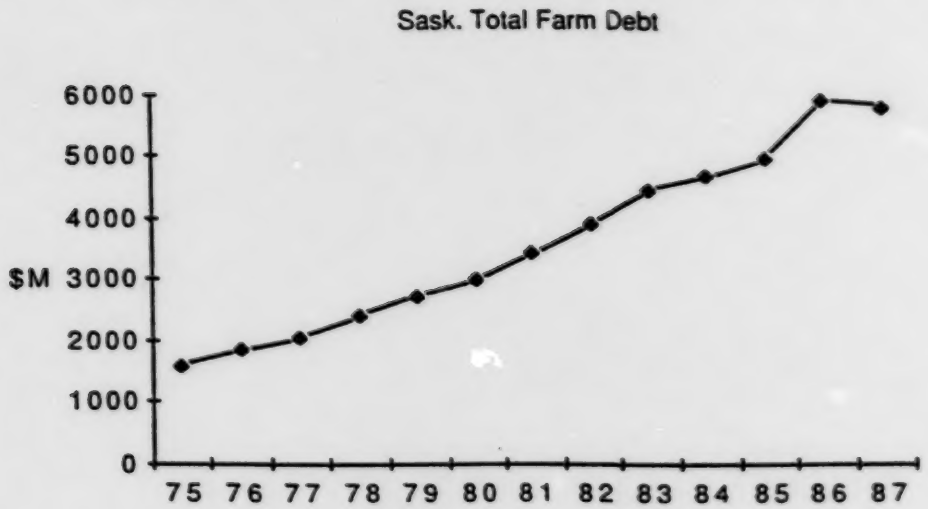
The **value of farm capital** in Saskatchewan, including livestock and poultry, land and buildings, implements and machinery decreased every year during the 1984 -1988 period (from $33,060.5M in 1984 to $24,528M in 1988).[9]



In a 1986 discussion paper entitled Current Financial Difficulties in Canadian Agriculture, the Economic Council of Canada examined farm finances across Canada. Their research found that the higher debt loads that farmers had taken on during the expansion period of the 1970's, combined with increased interest rates, lower commodity prices, and lower values being put on assets and inventory were causing substantial hardship in the farm sector.

[9] Source: Statistics Canada 21-603, Agriculture Economic Statistics.

Between 1970 and 1984 average gross farm income nearly doubled across Canada, but average operating expenses (excluding interest) also doubled and interest charges more than tripled. The large debt load among Saskatchewan farmers is evident by the fact that outstanding farm debt in Saskatchewan grew from $1,571.3 million in 1975 to $5,788.1 million in 1987.[10]



In this situation, the expenditures under the Ag ERDA had no measurable impact in the short term. They are small amounts (less than .1%) in a multi-billion dollar economy.

[10] Ibid.

The long-term impact of the Ag ERDA, however, is more important. Ag ERDA funds primarily were spent on research and development projects. These efforts had some local employment spinoffs, but primarily they were aimed at developing the province's ag. research capability, stimulating future growth of the ag. industry in the province, and attracting other research work and money. Since the impacts at the farm level of these research and development projects may still be many years away, the key evaluation issue is whether or not the funds were spent on areas likely to make a difference in the long term.

V. Allocation of Ag ERDA Funds By Sector Area

Of the total $55 million that was available for Ag ERDA projects, $21.21 million was committed by the Provincial government, while $24.8 million of federal funds were committed to Ag ERDA initiatives.[11]

It is clear from the data in **Appendix A** that the funding committed by the Ag ERDA Subsidiary Agreement was directed to those areas that were identified as priority areas, and primary objectives for the Sub-Agreement. The first of the objectives listed in the Sub-Agreement document identifies conservation and development of agricultural resources with particular attention to soil degradation as a primary objective. Fully 30.6% ($15.14M) of the funds committed by this Subsidiary Agreement were directed toward soil conservation, improved soil management, and soil survey work. Another $1.21M (or 2.5%) was devoted to plant protection research projects, while $.9M (or 1.8%) was directed toward fertilizer research..

While irrigation projects were redirected to the Irrigation Subsidiary Agreement, once that Agreement was in place, a fair degree of attention was devoted to the primary objective of enhancing human resource capabilities. $2.5M (or 5.1%) of the committed funds were spent of projects that would improve human resources and skills. Many of these projects focused on computer skills and management improvement for farming operations.

The other main objective identified for this Agreement was the development of important commodity sectors. At least $5.2M (or 10.5%) of the funding was directed toward wheat-related projects. Another $3.8M (or 8.2%) went for cattle related work, while $3.3M (7.1%) was spent on improvement of animal nutrition through forage crops research.

---

[11] It is noted that this amount of federal funding does not include the $5M that was redirected to the Canada/Saskatchewan ERDA Subsidiary Agreement on Irrigation Based Economic Development.

Other livestock areas that received attention from this Agreement include: swine ($1.8M), game farming ($250K), sheep ($170K), horses ($160K), and general livestock care ($1.1M). Among the other crop areas, we find that canola research received $1.4M, while alfalfa research received $360K. Peas, lentils and other pulse crops together benefitted by $330K of new funding. Horticulture in general and other crops like sunflowers, and flax received $1.3M collectively.

Expenditures reflected initial priorities.

Section II: Survey of Program Participants

I. Overview

In the first section of this work, a general review of the Canada/Saskatchewan ERDA Subsidiary Agreement on Agriculture Development (Ag ERDA) was carried out. Through that initial review of the projects funded under the Agreement and the Agreement itself, it was identified that the objectives of the projects that received funding matched the objectives of the Agreement.

It was shown that the Ag ERDA's specific goals of addressing agricultural resource issues (e.g., soil conservation and human resources), and developing important commodity sectors were of primary concern in the allocation of funding.

An overview of the agriculture economy in Saskatchewan prior to and during the time of the ERDA Subsidiary Agreement was also provided in the first section of this report.

This second part of the evaluation is devoted to the collection and analysis of survey data for the purpose of assessing the general reaction of funding recipients to the ERDA programs. The survey particularly focuses on:

- What benefits are believed to have resulted,
- How well the Ag ERDA program was administered,
- What other funding sources have existed or currently do exist for these types of projects,
- Whether or not there is a need for other programs to continue ERDA-type funding, and
- What type of support programs work best in developing Saskatchewan agriculture.

II. Methodology

Data for this survey were collected by means of a series of in-depth telephone interviews with a random sample of the recipients of ERDA funding. In selecting the sample we started by eliminating from the total array of projects those that are administrative in nature (i.e., Implementation, Information, Evaluation projects (6.0)), and those projects that are large enough to be considered independent programs and are likely to be the focus of separate evaluation efforts (i.e., Farming to Win (5.2-12), Save Our Soils (3.1-9) and PFRA Soil Management Program (3.1-1)).

In addition, the irrigation projects (4.0) have been deleted from our sample, as the irrigation focus was transferred from this Sub-Agreement to the Canada/Saskatchewan ERDA Sub-Agreement on Irrigation Based Economic Development at an early stage.

Lastly, all projects that are identified as rescinded projects have also been deleted from the project list.

After removing these projects from the sample base, we found the remaining population to include 247 projects. In order to achieve a sample size of roughly 50 projects, every fifth project was picked. Federal and provincial samples were drawn separately, but followed the same 5:1 ratio. **Appendix B** shows the sample framework that was developed.

The individuals who were identified on application forms and project lists as the contact persons for these projects were the target respondents for the survey. In cases where these individuals were no longer associated with the organizations that applied for the funding, two approaches were taken. First, a supervisor or other person knowledgeable about the project was sought for comments. Second, even if another in-house respondent was found by the above channel, the interviewer tried to find the original contact person at his/her new place of employment. In a small number of cases the original contact person left the

organization named in the application soon after project funding was granted, in such situations the second step was not followed.

The survey was a semi-structured one, with respondents encouraged by the interviewer to provide as much detail as they cared to provide. **Appendix C** shows the questions that were used for the interviews. Where "[Probe]" indicators are noted, interviewers asked respondents supplementary questions to get more information than straight yes or no answers.

III. Sample Representation

Twelve federal projects (out of 54) were chosen for the survey, as were 38 provincial projects (out of 195). **Appendix D** identifies the sample projects that were selected for interviews.

Appendix E shows the representation of the chosen sample across program areas in terms of number of projects, cost of projects and average costs. The average value of the projects that were chosen for the survey is not very much different than the average costs for all projects that were funded. This also is the case when looking at specific program areas.

This report describes the findings based on forty-nine completed interviews, conducted during March 1990. Among these 49 respondents, 20 (or 41%) were affiliated with the various Departments and research centres at the University of Saskatchewan, 10 (20%) were from private industrial organizations, four (8%) were with agricultural marketing boards or commissions, nine (18%) were with non-profit associations and councils, two (4%) were at Agriculture Canada's Research Stations, three (6%) were from provincial government departments or agencies, and one (2%) was with a rural municipality.

The survey resulted in 49 completions, out of the sample of 50 projects. The one missing project was an industry-based initiative, where the only individuals familiar with the project were out of the country for over a month. Given this situation, all of the findings in this report are based on the 49 projects surveyed.

IV. Survey Findings

A. Extent to which funded projects contributed to the program goals

The Canada/Saskatchewan Agriculture Development ERDA Subsidiary Agreement had two main objectives:

* the conservation and development of agricultural resources in the Province with particular attention to the soil degradation problem, irrigation, and the improvement of human resources and skills; and

* the development of important commodity sectors.

In the first interim report of this evaluation, it was identified that 30.6% of the total funding was directed toward soil related projects. An additional 20.9% was allocated for crop development projects (including 10.5% being wheat-related projects), at least 14.6% of the funding was directed to livestock-development projects (including 7.8% for cattle-related projects), and another 5.5% were human resource development related initiatives. The few projects remaining related more to food processing and trade promotion than to the above categories. Our initial analysis suggested that this distribution of program funding was in accordance with the intent and objectives of the Agreement.

It should be noted that these percentages are based on the focus of the work, and not the section under which the project was funded. In this evaluation we have found a few examples of projects that were funded under one section of the Subsidiary Agreement with titles that appear to coincide with that section, but whose actual objectives suggest a different ultimate focus or goal. (Note: this does not necessarily imply that these projects were incorrectly classified, since some of the funding categories appear to be overlapping.)

When we look at the actual dollar distributions within the sample, 26% of the funds spent on these 49 projects went to soils-related studies; 56% went to crops research; 14% to livestock research; and 3% to human resources-related

projects. On a dollar allocation basis, therefore, the sample of projects that was surveyed had a larger amount going to crops research and a smaller amount going to soils research than did the total number of projects funded. Livestock projects and human resource development projects are closely in line with the total funding.

Most of the interviewees indicated that their work had resulted in benefits and improvements to the state of crop development, livestock production, soils management or human resource development. Many of these resulting benefits were not the ones that were originally intended, but the findings, none the less, have been valuable within the program objectives.

There was a fairly even split among the projects that were surveyed as to whether the results were of benefit at the farm level or for commercial/industrial developments. Both types of activities appear to have been well supported by the Agreement.

A majority of the research projects (as opposed to conference development projects, or marketing development projects) have continued in other forms. The Agriculture Development Fund was repeatedly mentioned as the source of new funding for this work. As a result of the continued effort on these projects, commercial or farm level benefits appear to be just emerging. Most respondents indicated that benefits of the work were not yet fully apparent, but would hopefully develop soon. The lag time of five or more years is not unusual in R&D. In the development of crop varieties, a well-established process, 10-15 year cycles are normal.

Appendix F lists the various comments, showing the current and expected benefits at the farm level, as well as the current and expected benefits for commercial development.

B. Program Administration

Respondents to the survey were asked whether or not their application approvals ran smoothly or whether there were delays and problems involved. In response, 41 (or 84%) of those questioned indicated that there were no problems. Six respondents (12%) mentioned delays. Five of these were crop-related projects, with concerns over whether a growing season would be forfeited due to approval delays. At least two of these five projects went ahead with preparations and planting and received funding after the project had begun. The respondent for the remaining project that experienced delays in approval and funding commented on the fact that provincial funding was not available until nearly a year after the Subsidiary Agreement had been signed, and that approval was consequently delayed for a year from the time the project application had been submitted.

Respondents were also asked whether they had experienced any problems with the administration of the project by the government, and whether they were happy with the terms of reference, contract and the disbursements of funds. Thirty-four (67%) answered that they generally had had no problems with the government's administration of the project. Sixteen (or 33%) expressed concerns over various issues, but many of these also indicated that overall they had no problems with the administration. Comments that were related to project administration included:

- With regard to intellectual property rights, particular concern was raised where the applicants were co-funders, but knew the government would lay claim to any intellectual property rights developed under the agreement. These applicants felt that in the original contract for the work, the government should not have claimed the full property rights for resulting technologies, since it was not funding 100% of the work.

* Formats for progress reports were inconsistent. The Province was unhappy with the reports but didn't set out clear requirements in the contract.

* Overhead costs were not covered.

* Administrative requirements on the part of applicants had added unforeseen costs to the project, and reduced time available for project work.

* Inability to carry funds between fiscal years was a problem.

* Sending back unused money was felt by one respondent to encourage overspending and waste.

* Reports were a nuisance.

* Administration for capital expenditures was very inefficient. DSS made purchases but squandered money. DSS disregarded recommendations and spent more on inferior products that ended up costing the projects large amounts of time and money.[12]

* The government seemed to be reluctant to allow the purchase of scientific testing equipment needed to do the work.

* Reports were not in on time due to different year ends.

* There was confusion over one misplaced report.

* Payments were a little slow ("but that's government").

---

12 This comment was made by one interviewed participant. It should be noted that government regulations required DSS purchasing in this particular situation, subject to researcher's specifications. Time delays, however, were likely to occur under such situations.

* It was very fair, but where there were other co-funders for a project, the Ag ERDA administrators were not happy that the project funded didn't stress that it was ERDA-funded.

* One private sector applicant felt that an Ag ERDA administrator projected the image that private companies shouldn't access funds, because they might make a profit on the funding.

While funding levels and objectives varied extensively from one project to another, most of the survey respondents expressed support for the idea that the Ag ERDA monies could be applied to a wide range of funding categories. This is seen in the following list of the expense categories for these projects.

- fencing
- fertilizer
- salaries
- animal costs
- conference costs
- literature & research costs
- analysis costs
- computer processing
- photography
- entire cost of workshop development
- signs for demonstration sites
- capital equipment
- irrigation equipment
- seeding
- lab equipment
- hormones, etc.
- electronic parts
- animal maintenance costs
- travel/accommodation
- printing
- supplies
- audio visual materials
- satellite broadcasts
- translation costs

For those who expressed concern that the Ag ERDA didn't cover all costs, it seems that the problem was often one of project proposals not recognizing the need for funding for some relevant expense categories and including it in their applications.

About half the projects surveyed had other outside funding for parts of the work; for the balance, any extra costs were picked up by the applicant organization.

One of the problems that a number of respondents cited was the inability of the Ag ERDA program to cover overhead costs. This concern was not limited to University researchers, but was also expressed by individuals within other non-profit organizations. As a result, there was a feeling among a few projects that

the true cost of the work was not realized by the contract, and that it was costing the applicant out-of-pocket money to do this work for the government.

While some projects appear to have written into their proposals and received funding for equipment purchase, others mentioned that equipment costs were limited to rentals. This posed a problem for some of the research where specialized equipment was not available on a rental basis.

It is also noteworthy that the survey identified at least one project where the project was terminated as soon as it was identified that the work was not feasible and not likely to produce any useful results. This should be noted as one way in which the Ag ERDA Program Administrators were effectively managing the projects, and not allowing funding dollars to be wasted.

In summary, 84% of the respondents had no problems with the program's administration. Among those who expressed concerns, intellectual property rights on co-funded projects, the lack of coverage of overhead costs, equipment purchase restrictions, and the inability to carry funds between fiscal years appear to have caused the greatest concern for the funding recipients.

C. Federal/Provincial Cooperation.

The unusually high level of Federal/Provincial cooperation associated with this ERDA Agreement came through very strongly in the survey results. Not only was the cohesiveness and cooperation noted by project leaders, but it showed up in responses to other questions about preferred characteristics of future funding programs. Comments indicated:

- surprise with the low level of bureaucratic red tape,
- personal compliments to administrative staff within the governments,
- "one-stop shopping" for project funding was considered convenient,

- enhanced federal/provincial co-operation was seen as reducing the redundancy of government administration.

Another indicator of the level of cooperation between the federal and provincial governments was seen in the extent to which funding recipients were unaware of which government provided their funds. Among 49 respondents, only nineteen (39%) knew correctly which of the two governments had provided the funds for their project. Many of these individuals knew only because they were visited by a representative of that level of government during the course of the project work.

Among the remaining 30 answers, another twelve (24%) incorrectly presumed that, because it was a joint funding agreement, both levels of government had shared the costs. Thirteen (27%) had no idea which government(s) had provided the funding, and five (10%) indicated the opposite government from the one that had in fact provided the funding. One who named the wrong level of government, believed that the Ag ERDA was a program that used federal monies only, and was administered totally by the province.

Cooperation between the governments in the administration of this program was very much apparent to those outside the governments. In fact, the cooperation was so evident that recipients of funding didn't even need to know who had provided the funding. One respondent noted with curiosity that the original application had been made to ADF (Agriculture Development Fund) but was accepted as an Ag ERDA project. The individual wasn't concerned over this switch, but was perplexed.

D. Economic Impacts of the Projects

The survey respondents reported a wide range of economic benefits that they believe resulted from their projects. Twenty-seven respondents (55%) believed that their work had improved farm-level information, and that farmers were making use of that information already. Twenty-one (43%) believed that there was future commercial interest in the technologies developed, while ten others

(20%) felt that the current level of commercial knowledge had also increased as a result of their work.

Seventeen (35%) indicated that more research or related work was still needed before any economic benefits (for farmers or industry) would be realized. Only one respondent (2%) indicated that no benefits were derived or were likely to be derived from the funded project. In this particular case, the project was terminated near the beginning, as soon as this likely outcome was identified.

Among these same respondents, seventeen (35%) believed that some benefits had already resulted from their work. Twenty-three (47%) indicated a strong sense that future commercial benefits would occur, whether or not there were current benefits.

The comments received indicate no more than a handful of registration or patent possibilities resulting from the work, and that any economic impacts cannot be quantified within the scope of this survey. However, the improvements that can be generated in terms of improved farming practices and improved management within commercial operations (see Appendix D), suggest that Saskatchewan agriculture has received substantial benefit from the Ag ERDA funding.

E. Recommendations for future funding programs

Although there were several funding sources for agricultural development projects prior to the Ag ERDA, and there continues to be some others, the survey respondents overwhelmingly (42 out of 49) supported the need for further ERDA-type funding. Much of the explanation for this interest is based on a belief that other programs or funding agencies are limited in their focus and will not support the breadth of projects that the Ag ERDA did.

Among the few who did not believe there was a need for a further Ag ERDA-type program, were respondents who were currently receiving funding under ADF, and some who had been involved in market development projects. This latter

group commented on the confusion of purpose among funding programs that try to do too many things, and on the lack of clarity that has resulted from several government bodies funding market development work.

Many recognize that ADF does cover a lot of the types of projects that the Ag ERDA once did. Also, the proponents of the soil-related projects recognize that the National Soil Conservation Program is currently filling the ERDA void for soils work.

But there is also a sense among the respondents that the federal government has given up its support for this type of funding program, which means less money available for research and development initiatives.

Some of the reasons given by respondents for why there was a need for another Ag ERDA-type program included:

- Ag ERDA-type funding is important for the development of research for commercial application.
- There is a need for funding among a lot of good projects.
- Development-type programs are very beneficial (vs. strictly research funding). There is a need to bring research closer to industry.
- There are not many programs that support this type of applied work.
- Saskatchewan needs to be developing an overall food processing strategy.
- The Ag ERDA has been able to support projects that are public safety oriented which industry is not interested in funding.
- There is a need to address the human resource component of agriculture which the Ag ERDA has been able to do.
- It's been useful to have a program for applied research.
- The Ag ERDA worked well.
- The cost per unit of production was significantly reduced due to these research and extension programs.

1. Can you tell me a bit about the nature of the work that was done? what was the type of work and what was the objective?

2.a) When did you start the project?

2.b) When did the project contract end?

3.a) Was the project part of a larger, ongoing initiative within your organization?
[Probe for more information on the larger initiative]

3.b) [If yes] What portion was covered by the Ag ERDA Agreement? [Probe for time and $ amount]

4. Did the ERDA funding for your project come from the federal government, the provincial government or both?

5.a) What types of things did the funding cover?

5.b) What didn't it cover? (Were there other significant costs associated with this work that weren't covered by ERDA?)

5.c) Did you seek and/or receive funding from other sources for this project (or part of it)?

5.d) [If yes} From whom?

6.a) What other funding sources might have been available for a project like yours?

6.b) Given that the Ag ERDA Agreement was only a five year agreement, what other sources existed before ERDA, and what other sources now exist for projects like this? [Probe for government or industry sources]

7. From your recollection, did the application/approval process run smoothly and quickly? Or were there delays and problems involved? [Probe]

8. Were there any problems that you recall in the administration of the project? [Probe] Were you happy with the terms of reference, contract, the disbursement of funds, etc.?

9.a) Did this project lead to other related research work that is currently underway? [Probe]

9.b) Did it lead to any developments at the farm level? [Probe]

9.c) Is it likely to? [Probe]

9.d) Did it lead to any developments at the industrial level? [Probe]

9.e) Is it likely to? [Probe]

9.f) What economic impact has this work had?

9.g) Will it have future impacts?

10.a) What do you see as the overall benefit(s) derived from the work done under this project?

10.b) Could anything have been done to increase the economic impacts?

11. While other programs for encouraging agricultural development are continuing, the ERDA program has terminated. Do you have any recommendations for other ways in which the federal and provincial government can further stimulate agri-food development in Saskatchewan? [beyond already existing ways]

12.a) Is there a need for another ERDA-type program? [Probe]

12.b) Why is there a need? [Probe]

12.c) What features would you suggest for a future ERDA-type program? [Probe]

Appendix D

Interview Sample

Project Number	Project Name	Project Proponent
1.1-1	Winter Wheat	Crop Dev. Centre
1.1-6	Physiology of Salt Tolerance	Univ. of Sask.
1.1-11	Sel/Eval-Spring/Soft White & Triple M Qualities	Sask. Wheat Pool
1.1-17	Stability of GLA and EPA	Univ. of Sask.
1.1-22	Dev. Edible Oil Flax	Crop Dev. Centre
1.2-1	Spray Technology	Ag. Can. Res. St. Regina
1.2-9	Ascochyta in Peas	Ag. Can. Res. St. Melfort
1.3-1	Canola Potential	Sask. Canola Growers
1.3-6	Cooking Quality of Lentils	Sask. Pulse Crop Dev. Bd.
1.3-12	Drying & Ventilation - Lentils	Sask. Pulse Crop Dev. Bd.
1.4-2	Dehydrated Alfalfa Brochure	Can. Dehy. Assoc.
1.4-8	Enzymatic Interestification of Canola Oil	Univ. of Sask.
1.4-10	Prairie Malt Tech. Brochure	Prairie Malt Ltd.
1.4-15	Prairie Malt Translation	Prairie Malt Ltd.
1.4-21	Food Pacific 88	Nature Berry Inc.
1.4-27	Linen Project	Susan Risk, Regina
2.1-1	Beef Bull Weight "Let Down"	West. Coll. of Vet. Med.
2.1-6	Reproductive Data Collection	Sask. Agriculture
2.1-11	Somatostatin-Autoimmunization	Univ. of Sask.
2.1-12	Electronics for Heat Detect.	West. Coll. of Vet. Med.
2.1-17	Chromosomal Translocation in Beef Cattle	Univ. of Sask.

Project Number	Project Name	Project Proponent
2.2-5	Bull Perf. Test Centre Capital	Sask. Beef Cattle Perf. Assoc.
2.2-8	Canola Chaff Feeding	Sask. Research Council
2.2-13	Dairy Production & Feed Evaluation	Univ. of Sask.
2.2-18	Water Quality/Pork Production	Prairie Swine Centre
2.2-23	Screenings Treatment	Weyburn Inland Terminal
2.3-6	Blackfly-86	Biosystems Consult. Ltd., Saskatoon
2.3-12	Passive Control Air Inlet	Bantle Engineering Res.,. Saskatoon
2.4-4	Productivity and Reproductive Perf. in North East Sask.	R.M. of Hudson Bay #394
2.4-13	Shipping Fever Complex	Unity Veterinary Clinic
2.4-18	Tracheal Mite Research	Sask. Beekeepers Assoc.
2.4-23	VIDO-Vaccine Research	VIDO
2.4-28	Sask. Vet. Med. Assoc. Study	Sask. Vet. Medical Assoc.
2.4-33	Wildlife Disease Study	Sask. Game Farmers
2.5-1	Irrigated Sheep Pasture	Sask. Sheep & Wool Marketing Commiss.
2.6-9	Pork Industry Dev. Centre	Sask. Pork Producers Marketing Board
3.1-2	Soil Conservation Mapping	Sask. Soil Survey Unit Univ. of Sask.
3.1-3	Soil Survey	Sask. Soil Survey Unit
3.11-8	Effect of Herbicide Stress Symbiosis in Pease and Lentils	Sask. Pulse Crop Development Board
3.1-14	Mycorrhizal Symbiosis/Crops	Univ. of Sask.

Project Number	Project Name	Project Proponent
5.1-1	Training Farmers on PC's	Settler Computer Tech.
5.1-2	Farm Safety Workshop-Women	Sask. Safety Council
5.1-9	Horticulture Info. Systems	Univ. of Sask.
5.1-14	Machinery Modification for Disabled Farmers	Sask. Abilities Council
5.2-1	Leadership Competency Improve.	Univ. of Sask.
5.2-6	Educ. Agriculture Policy Conference	Univ. of Sask.
5.2-14	Women - Local Decision Making	Univ. of Sask.
5.2-19	Self Help Support Program	Univ. of Sask.
5.2-22	Sask. Wheat Pool Tech. Transfer	Sask. Wheat Pool
5.2-25	Northern Econ. Conf.	SIAP

APPENDIX E

SAMPLE REPRESENTATION

	Total Projects Funded	Number of Projects in Sample	Total Cost of Funded Projects	Total Cost of Sample Projects	Average Cost of Funded Projects	Average Cost of Sample Projects
Crops	79	16	$11,726.8K	$5,441.6K	$148.4K	$340.1K
Livestock	106	20	$ 9,965.7K	$1,421.7K	$ 94.0K	$ 71.1K
Soils	16	4	$13,685.9K	$2,603.3K	$855.4K	$650.8K
Human Resources	46	10	$ 2,134.0K	$ 385.9K	$ 46.4K	$ 38.6K
Total	247	50	$37,512.4K	$9,852.5K	$151.9K	$197.1K

Note: -Section 6.0 (Implementation, Information and Evaluation Projects), larger projects (i.e., 3.1-1;3.1-3;5.2-12), Section 4.0 (Irrigation Projects), and all rescinded projects have been excluded from these totals.

-Projects in the Crops sample include several of the larger dollar amount projects; samples drawn for the livestock, soils and human resources categories tended to include more of the smaller projects.

- Project costs used in this table are based on committed funds, not actual expenditures.

APPENDIX F

CURRENT AND FUTURE BENEFITS OF SAMPLE ERDA PROJECTS AT THE FARM AND COMMERCIAL LEVELS

CURRENT BENEFITS AT THE FARM LEVEL

Diffusion of information

1,100 Farmers took a course on computers

Wild rice production increased

Fish farming increased on a small scale

Berry picking increased

Motivated people to explore new ideas

Farmers have become very much aware of problem of embryonic loss of cattle due to chromosomal translocations.

Veti-Care program developed

Expanded information base for methods of production of warm season vegetable crops

Improved understanding of North American diseases and parasites affecting game farming.

Improved understanding of how to improve winter wheat production under Saskatchewan conditions.

Improved database of Saskatchewan soil conditions.

Knowledge that better returns are realized if lambs are only partly finished on their mothers' irrigated pastures, after they are weaned.

Knowledge that electric fences will keep out predators on irrigated community sheep pastures.

Knowledge that amoniated canola chaff is acceptable feed for calves.

Increased number of farmers now participating in feed testing and understanding the value of test results.

Improved awareness of safety concerns and practices for farm women.

Established farm level network to provide pork producers with needed information.

Developed a 500 page catalogue of "Farm and Home Modificaitons Designed and Used by Saskatchewan Farmers with Physical Disabilities."

Canola producers increased use of better varieties and irrigation technology.

Increase in sales of bulls at the Bull Performance Test Centre from $.25M to $1.5M with benefits going to the producers and suppliers.

Increased interest in sales of yearling bulls, with lower body weights and longer productive life span.

Improved information availability of new varieties of peas and harvesting techniques for Saskatchewan farmers.

Increased awareness by pig producers of analysing water instead of observing symptoms among animals and adjusting diet.

EXPECTED FUTURE BENEFITS AT THE FARM LEVEL

More efficient production techniques for wild rice

Increased testing for the translocation gene among cattle, and culling among herds.

Increased demand for alfalfa, based on increased marketing and sales

Increased herd health and productivity.

Viable edible flax oilseed crop, for growth where canola cannot be grown and as a rotational crop for canola acres.

Development of a vaccine for control of cattle shipping fever.

Development of a serum test for brainworm among game animals.

Soil conservation programs at the farm level being developed.

Increased interest in the application of technology of immunizing against somatostatin in order to enhance growth and lactation in sheep.

Development of innoculants to reduce herbicide stress in field peas and lentils.

Increased interest at the farm level in techniques for drying and ventilating lentils.

Increased technology available for disabled farmers in the future.

Development of crop varieties with better salt tolerance.

Development of high-bred canola varieties for future use.

CURRENT BENEFITS AT THE COMMERCIAL LEVEL

Increased use of AI to promote herd health, productivity and reproductive performance.

Increased sales of vegetable and flower bulb sales to farmers.

More locally grown flowers available.

Sales of materials for tunnels for growing warm weather vegetables (which allow plant to ripen).

Industry joint ventures being considered for products to immunize against somatostatin for the enhanced growth and lactation of sheep. (Patents currently pending).

Commercial interest in the development of an electronic implant to detect estrous in dairy cows.

Work with CSP Foods to develop canola meal as a feed.

Industry interest in development of innoculants for reducing herbicide stress on field peas and lentils.

Awareness and promotion of safety by farm equipment suppliers.

Industry interest in manufacturing drying and grain storage equipment for lentils.

Machinery industry allerted to design changes and needs of disabled farmers for adapted equipment.

Licensing of new hybrid varieties of canola for Saskatchewan.

Identification of techniques for modifying fatty acid composition in canola oil.

EXPECTED FUTURE BENEFITS AT THE COMMERCIAL LEVEL

Higher alfalfa profits, if sales increase as a result of international promotions.

Future market increases for edible oil flax seed variety.

Commercial sales of vaccine for control of shipping fever, once vaccine is ready.

New variety development for winter wheat.

New varieties of improved high yielding spring wheat with soft white and triple-M qualities.

Development of new tools and equipment for disbled farmers.

- The benefits of the Ag-ERDA has been substantial, and should not be dropped.
- There is a need to increase joint ventures.
- The extension function promoted by the Ag ERDA is important to maintain.
- There is a need for continued funding for diversification.
- There is a continued need for applied side programs.
- Through programs like the Ag ERDA, the government can help stimulate things that wouldn't otherwise happen.

When asked, "What features would you suggest for a future ERDA-type program?" respondents suggested:

- Less intervention or changes by government to project designs.
- Better collaboration and interdisciplinary research.
- More emphasis on market needs.
- More reliable dollars from year to year, since the uncertainty hurts research efforts.
- Less bureaucracy. [From one of the applicants who waited four months for project approval.]
- Allowance of overhead costs (unlike the Ag ERDA), and enough funding to cover personnel costs so that staff can be hired [as in the Ag ERDA].
- A longer term structure with flexibility for annual adjustments to goals and objectives while still providing funding.
- Funding for strategic development of the food processing sector.
- Funding for equipment and travel allotments.
- More emphasis on human resource components.
- More emphasis on dissemination of information to growers.
- Options for longer term funding (e.g., three years with an option for two more), allowing for the hiring of people for longer terms.

- Coordination between federal and provincial support.
- Finding new ways of using agri-products produced in Saskatchewan.
- Inclusion of farmer representatives on technical review committees is a good idea.
- Greater recognition on the part of government for the revenue-generating requirements of private industry, which means that government should not try to hold the property rights to products generated by joint ventures with industry.
- Maintain the flexibility of the Ag ERDA program.
- Decisions on projects to be funded coming from industry inputs, so that benefits can be felt at the grass roots.
- A better effort at letting industry know what a funding program will consider would be useful. [This particular respondent maintained it is government's job to let all prospective industry applicants know about all aspects of a new program. He also admitted, however, that brochures are often treated as junk mail and other forms of communications are largely ignored.]

F. Meeting the Needs of Different Client Groups

During the course of the interviews, it became apparent that three different types of clients were served by the Ag ERDA. These groups are closely (although not completely) aligned with their organizational affiliations.

In the first group, university researchers and government laboratory researchers tended to have projects aimed at increasing knowledge. For these clients the Ag ERDA was seen as another funding source for mid-to-long term research. The need to identify end results or economic benefits that could result from their work was very difficult for these individuals.

The second group consisted of clients who were part of associations or other agricultural interest groups. For this group, research was undertaken with the intent of spreading new knowledge to farmers through more and improved extension programs. The dissemination of new ways of growing crops, or raising

livestock, was their main goal. What happened to that information once it was provided to the farmers was assumed rather then proven.

The third set of researchers was more corporate-minded. Many were based in private industry; others were entrepreneurial individuals working for other types of organizations. This group relied on academic and government researchers for some of their testing requirements. They were interested in producing commercial/industrial value-added products, as well as establishing new agricultural procedures to increase efficiency of operations. This group perceived a need to undertake projects that would clearly generate economic returns for the agricultural economy.

Compared to the other groups, this third type of client was not as familiar with, or dependent on, government funding programs for its continued existence. These clients may have generated the greatest short-term economic benefits, but they were also easily frustrated with government funding procedures.

The Ag ERDA seems to have been very successful in meeting the needs and expectations of these diverse client groups. The wide scope of the funding programs and subprograms organized under the Agreement enabled Canada and Saskatchewan to support an extensive array of agricultural projects and applicants.

Each applicant, however, brought to the program their own ideas of agricultural development research; each took away a sense that the Ag ERDA Agreement was designed for their type of research or development. In many ways Ag ERDA had something for everyone.

As a result, there was a feeling among the applicants that any future funding programs set up to carry on the Ag ERDA thrust should focus on their type of agricultural development research. If any future funding program perceived to be an Ag ERDA replacement focuses on only one aspect of agricultural development, it may be misinterpreted by some of the diverse clients who have

been involved with ERDA projects. More limited programs will, therefore, have to be clearly differentiated from Ag ERDA.

V. Interview Summary and Conclusions

Our discussions with a sample of roughly one fifth of the funding recipients shows a very high proportion were overall supportive of the ways in which the Canada/Saskatchewan ERDA Subsidiary Agreement on Agriculture Development was administered and the types of activities that it supported. Funding recipients believe that, compared to many government programs, this program ran very smoothly and was well administered. They give credit to the high level of cooperation between the two levels of government for much of the program's success.

The Subsidiary Agreement directed significant sums of money to those areas that had been assessed as priority areas for agriculture development in Saskatchewan (namely soils, wheat, and cattle production). Other important areas, including crop diversification, livestock production and human resource development also received support.

While over half of the surveyed projects indicated that their research projects were ongoing (presumably with funding from other sources), a significant number also noted that economic benefits at either the farm level or commercial level were already being realized.

With the large number of diverse projects that were funded under this Agreement, and the wide range of types of applicants, it is not surprising to find mixed perceptions about the intent of the Agreement. For researchers in universities or other research centres, there is a strong sense that the ERDA Subsidiary Agreement was meant to fund basic research. Some of these recipients recognize the need for disseminating their research findings (to farmers or industry) in order to realize economic benefits, but the need for continued funding of basic research is crucial to this group.

Others, who were involved in extension type services and agricultural associations, project the view that the most important thing the Ag ERDA could

have done was to improve the farmer's level of knowledge about research findings, so that farming operations can become more efficient and productive.

Lastly, for those involved in private industry, either through marketing commissions and boards or private sector firms, the Ag ERDA was a program that focused on the applied commercial value of research findings and supported industry in its pursuit of specific marketing projects. The commercial benefits for industry are the part of the Ag ERDA that is missed by this group, but which may, in part, be picked up by the Department of Western Diversification's funding.

Regardless of the applicant's type of organization, or the type of project that was funded, there is a general sense among all recipients that the end of the Ag ERDA has abruptly cut off some valuable research and activities. There is also the view that there is a valuable research capability in the Province that is not effectively utilized at the moment due to a lack of funding.

While each project under the Ag ERDA was funded for a definite period of time, many of the projects have led into other related projects. If the Ag ERDA had continued, many of these spin-off activities would have produced applications for funding.

For about half of the survey respondents, ADF has been the Ag ERDA replacement. There remains, however, a feeling that the federal government has given up on agricultural research. A number of recipients noted that the Department of Western Diversification was established as a means of delivering federal monies into the western provinces, but that WD's emphasis on applied projects does not relieve the funding void for basic agriculture research efforts.

Section III - Overall Conclusions and Recommendations

Based on the information collected for this evaluation, the following **conclusions** can be drawn.

- The Canada/Saskatchewan Ag. ERDA has generally worked well. Both program administrators as well as a majority of the funding recipients believe that this program was well designed and well implemented.

- The dollars spent were directed at those areas of R&D that had been identified as requiring assistance.

- A major share of the projects funded have generated information and results that can help improve the efficiency and management of farms in Saskatchewan.

- The program generated a good mechanism for federal/provincial cooperation. (There are some fears, however, that this cooperation may suffer without continuing cooperative programs.)

- The program addressed a large number of agriculture-related issues, that were handled by diverse organizations. As a result the program can be considered a major success in terms of the number of satisfied funding recipients.

- There has been some concern among Provincial officials that the federal money contributed to the Sub-Agreement was not new money, as much of it went to fund research at federal government labs and research stations. This should be looked at in the context of an otherwise reduced federal research capability, and a bridge that the federal money provided until provincial funds were available.

  The current situation shows federal agriculture research labs to be facing substantial budgetary constraints. Had the Ag ERDA funds not been

available for maintaining and increasing agriculutural research in the province, the federal labs may well have been forced to reduce their agricultural research programs much sooner. Instead, the two governments were able to work out an arrangement that enabled funding until Provincial funds were available, and at the same time ensured that longer-term research could commence as soon as possible. Faced with less than ideal situations, the two governments were able to cooperate and work out the best solution.

- While many Ag ERDA-type projects are now funded by ADF, Ag ERDA funding recipients generally believe that the total monies available for this type of research and development work has been reduced. If this is in fact the case, then the research and development expertise that the Ag ERDA helped to build will lose some of its momentum.

Several **recommendations** for future initiatives are derrived from this evaluation study:

1. **There remains a need for programs that will cover a wide range of agriculture-related research projects.** While the ADF program has addressed much of this need, and the Western Diversification Program has picked up some of the industrially-related research, a general concern exists that some important agriculture-related research may be stopped as a result of reduced funding.

   Careful consideration should be given as to whether there are priority areas that ADF, WDO, and other programs are not currently addressing. Consideration should also be made as to whether the various research organizations that maintain research expertise are eligible to apply for existing funds. To the extent that these organizations are unable to maintain their research agendas, the Province's research capability is not being maximized.

2. **There exists a need for the federal and Saskatchewan governments to continue to work cooperatively in the area of agriculture research.** The Ag ERDA Subsidiary Agreement served a very useful purpose in bringing the two levels of government together to coordinate their activities and establish their funding priorities. The joint Management Committee and joint Technical Review Committees that were established under the Ag ERDA served to avoid duplication of efforts and to ensure that consistent research directions were maintained. By working together, and understanding each other's concerns, the two government's were able to achieve substantial results.

   Without the Ag ERDA Subsidiary Agreement or similar joint funding, mechanisms should be established to enable the two governments to communicate on their respective agriculture activities and priorities. At one level, the Technical Review Committees established under the Ag ERDA Agreement do still provide coordinated federal and provincial input on ADF projects. However, coordination at other levels appears to have been lost. Joint advisory committees with senior level representation and staff level participation are recommended for maintaining communications.[13]

   Agricultural research in Saskatchewan has benefitted in the past from a generally good spirit of cooperation between the provincial and federal government. Future endeavors in this field should recognize the strong bonds that have been established between the two levels of government, and should continue this approach.

3. **If a new joint funding program for agricultural research (or for any subset of agricultural research) is established in the future,**

---

[13] The Canada/Saskatchewan New Technology Steering Committees, that were established by the Provincial government in 1984 and were operational until 1986, served as a means of communicating with federal government officials on topics related to advanced technology. This is a model that has worked well.

both governments should establish a clear set of management guidelines at the very beginnning. Such guidelines should address not only the program's funding objectives, and management structure, but also what topics of research should be funded and who should be eligible to receive the funds. The guidelines should be established in a way that will reduce the likelihood of misunderstandings, or unexpected management decisions being made by either government, during the term of the program.

It should be noted, however, that having too high a level of detail in the guidelines can have a negative impact on other areas of the Agreement.. A number of ERDA Subsidiary Agreements have been written in such a way that they clearly define the split for funding by individual governments according to subprograms, identifying from the start which government will be funding which projects. Such distinctions can be used to ensure equal distribution of funding throughout the term of the agreement, and among the different types of projects (e.g., basic, applied, developmental research, or long or short term). The use of such detailed guidelines, however, is likely to limit the extent to which communications between the government agencies are perceived as necessary.

4. **With regard to any research funding (joint or otherwise), governments should not be overly concerned over the equal flow of funding during each year of the program.** Program administration will require that projects funded during the end of the program will, by necessity, be of a shorter duration than those that can be funded at the start. This will influence the type of research that is accepted in later stages of the program, but should not influence the overall outcomes of the program, itself.

APPENDICES

Appendix A - ERDA Funding by Commodity/Sector Area

Appendix B - Sample Framework

Appendix C - Telephone Survey Questions

Appendix D - Interview Sample

Appendix E - Sample Representation

Appendix F - Current and Future Benefits of Sample ERDA Projects

APPENDIX A

CANADA/SASKATCHEWAN AGRICULTURAL DEVELOPMENT ERDA SUBSIDIARY AGREEMENT FUNDING COMMITTED BY COMMODITY/SECTOR AREA

COMMODITY/SECTOR AREA	AMT. OF FUNDING COMMITTED	PERCENT OF TOTAL FUNDING
Soils	$15.14M	30.6%
Irrigation	10.0M	20.2%
Wheat	5.2M	10.5%
Cattle	3.8M	7.8%
Forage Crops (General)	3.3M	6.7%
Human Resources	2.5M	5.1%
Swine	1.8M	3.7%
Canola	1.4M	2.9%
Pesticides/Insecticides (includes Bioinsecticides)	1.1M	2.3%
Livestock (General)	1.0M	2.0%
Horticulture (General)	.9M	1.8%
Fertilizers	.42M	.9%
Alfalfa	.36M	.7%
Herbicides	.34M	.6%
Game Farming	.25M	.5%
Trade Promotion	.24M	.4%
Honey	.2M	.4%
Farm Management Practices	.19M	.4%
Sheep	.17M	.3%
Sunflowers	.17M	.3%
Horses	.16M	.3%
Peas	.13M	.2%
Lentils	.13M	.2%
Saskatoon Berries	.11M	.2%
Processing (Oils, Pasta, Dairy)	.09M	.1%
Flax	.08M	.1%
Pulse Crops (General)	.07M	.1%
Other Crops (Wild Rice, Potatoes)	.03M	.05%

*Note: Dollar amounts and Percentages may not equal totals spent or 100% due to rounding of dollar values for individual commodity areas.

APPENDIX B - SAMPLE FRAMEWORK

	Federal	Provincial	Total
Crops			
Total Projects	30	49	79
Sample Size	6	10	16
Livestock			
Total Projects	15	91	106
Sample Size	3	17	20
Soils			
Total Projects	1	15	16
Sample Size	1	3	4
Human Resources			
Total Projects	6	40	46
Sample Size	2	8	10
Totals			
Total Projects	52	195	247
Total Sample Size	12	38	50

APPENDIX C

EVALUATION OF THE CANADA/SASKATCHEWAN ERDA SUBSIDIARY AGREEMENT ON AGRICULTURAL DEVELOPMENT

TELEPHONE SURVEY QUESTIONS

[INTRODUCTION] Hello, my name is _____, and I'm calling from Brystra Consultants in Regina. Our firm has been hired by the Saskatchewan Department of Agriculture and Food and Agriculture Canada to evaluate the Canada/Saskatchewan ERDA Subsidiary Agreement on Agricultural Development.

As you may be aware, this five year program has now ended, and we are assessing the impacts of the program as a whole. As part of the evaluation, we have been asked to contact the key people associated with a sample of projects.

You have been identified as the applicant on a project entitled "_____". Are you the most appropriate person to talk to about that project?

[If no] Could you tell me who would be an appropriate person to answer a few questions about the project?

[If yes] Your answers will be confidential, held only in our files. Would you have a few minutes now, that I could ask you a few questions about the project?

[If yes, proceed]

[If no] When would be a better time to call back?